

**INTERNET TECHNOLOGY  
(INFO 4101)**

**Time Allotted : 3 hrs**

**Full Marks : 70**

*Figures out of the right margin indicate full marks.*

*Candidates are required to answer Group A and any 5 (five) from Group B to E, taking at least one from each group.*

*Candidates are required to give answer in their own words as far as practicable.*

**Group - A  
(Multiple Choice Type Questions)**

1. Choose the correct alternative for the following: **10 × 1 = 10**
- (i) JavaScript objects can be created with the new keyword, and with the \_\_\_\_\_ function.
- (a) object() (b) object.create()  
(c) javaScript.object() (d) create.object()
- (ii) What is the correct JavaScript syntax to change the content of the HTML element below?
- (a) #demo.innerHTML = "Hello World!"  
(b) document.getElementById("demo").innerHTML = "Hello World!"  
(c) document.getElementByName("p").innerHTML = "Hello World!"  
(d) document.getElement("p").innerHTML = "Hello World!".
- (iii) What does the term DOM stands for?
- (a) Document Object Model (b) Dynamic Object Model  
(c) Discrete Object Model (d) None of the above.
- (iv) Which of the following jQuery selector selects all elements available in a DOM?
- (a) \$('\*') (b) \$('?')  
(c) \$('#') (d) None of the above.
- (v) Which method of fs module is used to delete a file?
- (a) fs.delete(fd, len, callback)  
(b) fs.remove(fd, len, callback)  
(c) fs.unlink(path, callback)  
(d) None of the above.

- (vi) jQuery method to hide selected elements is  
(a) visible(false) (b) hidden()  
(c) display(none) (d) hide().
- (vii) Type Script is \_\_\_\_\_ of Java Script  
(a) sub set (b) super set  
(c) inherited from (d) none of the above.
- (viii) Type Script provides type checking at  
(a) run time (b) compile time  
(c) load time (d) none of the above.
- (ix) What is Model in MVC?  
(a) Model represents server side data  
(b) Model represents data stored in database  
(c) Model is the lowest level of the pattern responsible for maintaining data  
(d) None of the above.
- (x) On which of the following types of component can we create a custom directive?  
(a) Element directives (b) Attribute  
(c) CSS (d) All of the above.

### Group – B

2. (a) Briefly describe different modules of DOM architecture. What does it mean by de-structuring of arrays?  
(b) Differentiate between asynchronous and synchronous call-back relevant with example.  
**(4 + 2) + 6 = 12**
3. (a) What is DOM tree — Briefly explain. What is “arrow function”?  
(b) Write a Java Script code which will display an image, when clicked on image it will follow the mouse until the mouse is clicked again.  
**(4 + 3) + 5 = 12**

### Group – C

4. (a) Write a program in jquery which will remove a class in one click and in second click the class will be added again.

(b) What is method chaining in jQuery? Provide an example. What advantages does it offer?

**6 + (3 + 3) = 12**

5. (a) What is callbacks function in javascript? Explain with example.

(b) Explain bind() and filter() method with example in javascript.

**6 + (3 + 3) = 12**

### **Group - D**

6. (a) Write a web application using express web framework of Node.js.

(b) Create an application using Backbone.js. Give example of four HTML APIs.

**4 + (4 + 4) = 12**

7. (a) What is the purpose of d3.js. Write a javascript code for adding and deleting elements using d3.js.

(b) Write a code to draw SVG Circle using d3.js. What is the purpose of d3.js transition?

**(2 + 3) + (3 + 4) = 12**

### **Group - E**

8. (a) Describe the core features of AngularJS.

(b) State advantages and disadvantages of AngularJS. Describe MVC architecture.

**4 + (4 + 4) = 12**

9. (a) Write javascript code based on AngularJS ngModel directive to provide the two-way data-binding by synchronizing the model to the view, as well as view to the model.

(b) Write a javascript based on AngularJS to implement custom form controls. Discuss custom model update triggers and non-immediate (debounced) model updates of AngularJS forms. Define \$routeProvider of AngularJS module.

**4 + (4 + 2 + 2) = 12**

